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ON A NEW SPECIES OF *APIOMORPHUS* WAGNER (COL., CURCULIONIDAE, APIONINAE) AND A KEY TO THE KNOWN SPECIES

By J. Balfour-Browne, M.A., F.Z.S., F.R.E.S.

(*Dept. of Entomology, British Museum (Natural History)*.)

Apiomorphus marshalli sp. n.

♂♀. Derm black, elytra faintly bluish-metallic; elongate-oval, highly convex transversely; pronotal granules distinctly lenticular; all femora distinctly armed with a short spine or spines beneath near the apex; anterior tibiae distinctly serrate along the ventral edge, internally at the apex distinctly acutely produced; pronotum and elytra clothed with a very fine recumbent pubescence of moderately short golden hairs which are very hard to distinguish.

Head about as long as wide, the eyes small and prominently rounded; frons as wide as the base of the rostrum, finely but distinctly longitudinally rugose; vertex obscurely punctate-granulate and microreticulate; temples and genae transversely finely rugose. *Rostrum* a little longer than the pronotum, not longer in the female than in the male, distinctly curved, weakly flattened and expanded at the apex, from the base to the antennal insertion slightly conically narrowed, throughout smooth, strongly shining, finely and not very closely punctured at the sides, the mid-dorsal line quite impunctate; ventrally impunctate, shining; mandibles equal in size; scrobes very short, not reaching the ventral surface. *Antennae* inserted at one-quarter of the length of the rostrum from the base, elongate, slender, the scape long, as long as the two basal segments of the funicle taken together, these segments subequal in length but the basal segment twice as wide as the second segment and two to two and a half times as long as wide; third segment half the length of the second, fourth to seventh progressively shorter, seventh square; club elongate fusiform, loosely aggregated, the three segments subequal. *Pronotum* barely longer than wide, widest at the middle, the sides strongly rounded, the anterior margin slightly narrower than the base, the base straight, the posterior angles rectangular; surface coarsely granulose, the granules lenticular and slightly obliquely directed; the entire length of the middle of the dorsum with a smooth groove in which, just in front of the scutellum, is a very obsolete foveole; dorsal outline strongly longitudinally convex, highest at middle. *Scutellum* small, semicircular. *Elytra* about twice as long as wide, widest about two-thirds of the length from the base, the sides divergent straight from the shoulder to the widest point, then slightly attenuate to the abruptly rounded apex; strongly catenate-punctate-striate, the punctures of the striae deep and separated from the neighbouring punctures by a space about equal to their diameter; the interstriae barely wider than the striae, slightly convex, shining, with a single row of fine recumbent golden hairs, barely visible except when seen at an oblique angle; dorsal outline weakly regularly convex longitudinally; humeral callus not very prominent; the outermost (apparent marginal) stria dividing basally into the normal ninth and short tenth (true marginal) striae, and again apically; the first stria uniting with the tenth, the second with the ninth at the apex. *Venter* impunctate, metasternum smooth and shining, abdomen dull, finely rugose and reticulate except the fifth ventrite which is polished and shining in both sexes. *Legs* moderately long and slender, the hind femora not attaining the apex of the elytra; all femora finely toothed near the apex beneath; the interior tibiae dentate or serrate along the ventral face, the apex acutely pro-

duced internally; middle and hind tibiae simple; basal segment of the tarsi long, about as long as the second and third segments taken together, slender; fifth segment short, barely exceeding the lobes of the third segment; claws short, strongly curved, bluntly toothed at the base beneath. *Sexual dimorphism* only evident in the fifth ventrite which is transverse in the male, semicircular in the female and with a small median emargination in the middle of the posterior edge in the latter sex.

Length: 3·14–3·2 mm. (*sine rostro*).

Holotype ♂, South Africa: Cape Province; Otterford, xii. 1927, "Feeding on the leaves of *Podocarpus thunbergii*" (Ac.P. 4009. Serial No. 1748) (submitted by Division of Entomology, Pretoria).

Allotype ♀, same particulars.

Paratypes, 1 ♂, 2 ♀♀, same particulars. 1 ♂, South Africa: Cape Province; Swellendam, 9–14.xii.1931 (*R. E. Turner* leg.).

The types and one male paratype in the British Museum (N.H.); one male and two female paratypes will be deposited in the Division of Entomology, Pretoria.

This new species must belong to *Apiomorphus* (s.str.) by the presence of the denticulations near the apex of the femora beneath, but the character of the pubescence and the distinctly denticulate anterior tibiae will readily separate it from *cyaneus* Wagn. Voss (1931, *Mitt. deuts. ent. Ges., Jahrg.* **2**: 2) created a subgenus, *Apiomorphilus*, for two species—*inermipes* Voss (Transvaal) and *corvinus* Voss (Abyssinia)—which lack the denticulations of the femora and which he described as having the elytra not pubescent. Examination has shown, however, that the elytra of both species possess a distinct recumbent pubescence of the same type as that described for *marshalli* sp. n. and accordingly the only remaining subgeneric character is that of the presence or absence of the femoral teeth. I have named the new species after Sir Guy Marshall, who had previously recognised it to be distinct from the three described species.

Voss's key for the determination of the known species of the genus is here amended and extended to include the new species:—

1. Femora denticulate near apex beneath . . . . *Apiomorphus* (s.str.). 2.
1′. Femora not denticulate near the apex beneath. . . *Apiomorphilus* Voss. 3.
2. Femoral teeth distinct; thoracic granules round; pronotum without median dorsal furrow; elytra with erect straight black hairs; anterior tibiae unarmed internally. Metallic micant. . . . . *cyaneus* Wagn.
2′. Femoral teeth less distinct; thoracic granules lenticular; pronotum with median dorsal furrow; elytra with adpressed, weakly curved fine golden hairs; anterior tibiae serrate-dentate internally. Deep black. *marshalli* sp. n.
3. Frons almost as wide as the base of the rostrum; anterior tibiae unarmed internally; elytral interstriae as wide as the striae, matt, transversely striolate; size larger . . . . . *inermipes* Voss.
3′. Frons only half as wide as the base of the rostrum; anterior tibiae internally serrate-dentate; elytral interstriae slightly narrower than the striae, sub-nitid; size smaller . . . . . *corvinus* Voss.

SETAPION GEN. N., WITH DESCRIPTIONS OF TWO NEW SPECIES (COL., CURCULIONIDAE)

By J. Balfour-Browne, M.A., F.Z.S., F.R.E.S.

(*Dept. of Entomology, British Museum (Natural History).*)

Setapion gen. n. Apioninarum.

Submentum pedunculate. Mandibles very short. Head largely developed behind the eyes. Rostrum long, cylindrical, straight; scrobes foveiform, sharply incised, directed postero-ventrally and uniting to form a shallow fovea between the eyes. Antennae straight, scape variable, funicle 7-segmented, club normal. Eyes lateral. Pronotum without ocular lobes. Scutellum very small, punctiform. Elytra closely covering the sides of the body, 9-striate-punctate; scales erect, flattened, setiform. Anterior coxae conical, cylindrical, their foramina partially separated by an intercoxal lamina. Middle coxae comparatively widely separated by mesosternal and metasternal processes which meet. Legs very short; femora inflated but unarmed; tarsi 5-segmented, the third strongly bilobate, the lobes narrow, the fourth very small; claws free, strongly curved and distinctly dentate at the base beneath.

Genotype: *Setapion quantillum* sp. n.

Setapion quantillum sp. n.

♂♀. Derm black; head wide, *Apiomorphus*-like; scrobes sharply impressed and directed postero-ventrally, fusing beneath; form elongate-parallel; pronotum distinctly longer than wide; legs very short, hind femora not attaining the apex of the second ventrite; clothing of peculiar flattened, erect, lanceolate setiform scales, scattered on the pronotum, borne linearly on the elytral interstriae as follows, on the sutural, 2nd, 4th, 6th, 8th, and marginal; claws strong, strongly curved and distinctly dentate at the base beneath; four anterior tibiae of the male with a short, stout, termino-ventral spur.

Head wider than long, eyes moderately prominent, weakly rounded; frons wide, as wide as the base of the rostrum, finely but distinctly rugose-punctate, with two more prominent punctures at the extreme base of the rostrum whence arise two long divergent, flattened lanceolate setose scales, a second pair of similar but not divergent scales arise at the extreme posterior edge of the frons near the eyes; vertex finely rugose-punctate; venter strongly rugose-punctate, posteriorly finely transversely strigulose. *Rostrum* almost straight, cylindrical, shorter than the pronotum, very closely, finely and evenly punctured, the interstices much less than the diameter of the punctures, extreme apex subnitid. *Antennae* short, moderately stout, the scape almost as long as the first six segments of the funicle taken together; the basal funicular segment as long as the second, third and fourth segments taken together; second to seventh segments subequal, transverse; club short, ovoid. *Pronotum* distinctly longer than wide, widest at middle, base straight, sub-basal constriction shallow, subapical constriction strong, anterior margin simple; surface densely and finely punctulate, the interstices evidently less than the diameter of the punctures; dorsal outline sinuate, the sub-apical constriction extending across the dorsum; medio-dorsal sub-basal fovea obsolete; sparsely clothed with erect, long, flattened, lanceolate setose scales; prosternum exceptionally short in front of the procoxae, these latter almost separated by anterior and posterior processes which bridge almost two-thirds of the space, but do

not meet. *Scutellum* minute, punctiform. *Elytra* elongate, parallel-sided for two-thirds from the base from the strong humeral callus, thence to the apex rounded attenuate; strongly 9-punctate-striate, the first to fifth attaining quite to the base; the punctures large and strongly impressed, separated from each other by about one-quarter the diameter of the punctures; interstriae narrow, not wider than the serial punctures, flat basally, weakly convex apically; the sutural, second, fourth, sixth, eighth and marginal interstriae bearing a sparse unilinear series of long, erect, flattened, lanceolate brown setose-scales, the first interstria with a similar single setose-scale a short distance behind the base; dorsal outline flattened to two-thirds from the base, the posterior declivity gradually steeper. *Legs* very short, the femora, particularly the anterior pair, rather inflated at middle, tibiae straight, the four anterior tibiae of the male with a short, stout termino-ventral spur; tarsi with the second segment short, only one-half as long as the basal segment, third strongly bilobate, the lobes rather narrow; legs, including two basal tarsal segments, clothed with similar setose-scales to the dorsum; claws long, very strongly curved and strongly dentate at the base beneath, the tooth moderately acute. *Venter* shining, the metasternum at sides, fused first and second ventrites throughout strongly, deeply, but not closely punctured, the punctures setiferous; third, fourth and fifth ventrites finely microrugulose. *Sexual dimorphism* evident in the more transverse fifth ventrite of the male and the short termino-ventral spur of the four anterior tibiae of the male.

Length: 1·49–1·56 mm. (*sine rostro*).

Holotype ♂, South Africa: Cape Province; Swellendam, 17.xii.31–18.i.32 (*R. E. Turner* leg.).

Allotype ♀, same particulars.

Paratypes, 20 specimens, same particulars. 2 specimens, same locality, xi.1933.

The type and paratypes in the British Museum (N.H.).

This little species is unlike any other described species known to me by the distinctly partially separated procoxae, the comparatively widely separated mesocoxae and the exceptional character of the scales (although somewhat similar in that feature to the widely different *Apion erinaceum* Wagn.). The facies is also very unlike *Apion* and I feel compelled to separate the insect generically from *Apion* Herbst in spite of the slenderness of the characters on which it is founded. This procedure, as has already been remarked by Riley (1883, *Bull. Brooklyn ent. Soc.* **6**: 61), can only be justified by the uniformity of the Apioninae in structural characters in relation to the very large number of species in the group. Such genera may be accepted as genera of "convenience" by which a simplification of the task of identification in a large and uniform group of upwards of 1400 named species may be obtained, and they also simplify the placing of a given species in relation to other species within the group.

Setapion provinciale sp. n.

♂♀. Derm deeply blackish-rufescent, legs reddish; head wide, conical, widest at base, eyes not very prominent but distinctly more so in the male than in the female; scrobes distinct, directed postero-ventrally; form elongate-parallel; pronotum little longer than wide, widest about the middle; scutellum minute; legs very short, femora strongly inflated; clothing of scales similar in character to those of *quantillum* sp. n. but narrower, and, additionally, on the pronotum and on the elytral humeri with short, sparse, fine white hairs; claws long, sharply curved and strongly dentate at the base beneath.

Head conical, about as long as wide at the base, eyes in the male not very prominent, in the female not at all prominent; frons as wide as the base of the rostrum, longitudinally

rugose-punctate with a short median striole, posteriorly closely finely punctured, vertex strigulose; at the base of the rostrum two anteriorly directed, erect long flattened lanceolate setose scales; venter smooth, impunctate, posteriorly transversely strigulose. *Rostrum* of the male as long as the head and pronotum together, of the female, one and one-half times as long as the head and pronotum together, slender, parallel, quite straight, closely, finely and evenly punctulate; at the base with one pair of larger punctures anterior and external to the extreme basal pair carrying similar but slightly shorter flattened setose scales and a further pair of similar larger punctures still more antero-external to these with similar but longer flattened setose-scales. *Antennae* long and slender, the scape very long, as long as the first four segments of the funicle taken together, the basal funicular segment of equal length to, but twice as wide as, the second segment, the third and fourth segments subequal but slightly shorter than the first and second segments, fifth to seventh segments progressively shorter and broader, seventh as wide as long; club short ovoid. *Pronotum* little longer than wide, widest at middle, base straight, sides weakly but distinctly rounded, sub-apical constriction shallow but distinct, sub-basal constriction quite obsolete; anterior margin simple; surface closely punctured, the punctures of two sizes, the larger, bearing long, flattened, erect, lanceolate setose scales, and the smaller, less than half the diameter of the larger, bearing recumbent short fine white hairs; without trace of the medio-dorsal sub-basal foveole; the anterior margin medially with the erect setose scales, laterally with white hairs. *Scutellum* minute, punctiform. *Elytra* elongate-oval, parallel-sided to two-thirds from the base, the humeral callus very strong, the base straight; dorsal outline almost flat to two-thirds of the length, thence abruptly convex to the almost vertical posterior declivity; distinctly 9-punctate-striate, the strial punctures moderately deep and almost square, the interstices about as long as the punctures; interstriae weakly convex, not wider than the striae, each with a unilinear series of long, erect, flattened, lanceolate setose scales, particularly long at the shoulder on the marginal interstria; second interstria at extreme base with a small tubercle. *Legs* very short, the femora strongly inflated at middle, hind femora not exceeding the fourth ventrite; tibiae straight, slightly sinuate before the apex ventrally, the legs, including the two basal tarsal segments, clothed with the typical setose scales; of the male with the four anterior tibiae produced into a short stout spur termino-ventrally; tarsi slender, the third segment deeply and slenderly bilobate; claws very strong, abruptly curved and strongly dentate at the base beneath. *Venter* shining, the metasternum at the sides, the first and second ventrites laterally and the fifth ventrite coarsely punctured, the punctures setiferous; common suture of the fused first and second ventrites laterally deeply impressed. *Sexual dimorphism* noticeable in comparative length of the rostrum, more transverse fifth ventrite and presence of termino-ventral spur of the four anterior tibiae of the male, also by the slightly more prominent eyes of the male.

Length: 2·11–2·30 mm. (*sine rostro*).

Holotype ♂, South Africa: Cape Province; Swellendam, xi.1933 (*R. E. Turner* leg.).

Allotype ♀, same particulars.

The type and allotype are in the British Museum (N.H.).

This species, at first sight strongly suggestive of an *Apiomorphus*, is clearly very closely related to *quantillum* sp. n., but it is larger, the rostrum much longer and distinctly sexually dimorphic and the femora proportionally more inflated than in that species.

NEW OR LITTLE-KNOWN SPECIES OF EXOTIC TIPULIDAE (DIPTERA) II

By Professor Charles P. Alexander, F.R.E.S.

(Massachusetts State College, Amherst, Massachusetts.)

The preceding part under this general title was published in 1943, *Proc. R. ent. Soc. Lond.* (B) **12** : 173–180. Most of the species discussed herewith are from the Netherlands East Indies and were included in collections sent to me for identification by Dr. M. A. Lieftinck. When conditions permit, the types of such novelties will be returned to Dr. Lieftinck for incorporation in the collection of one of the leading museums in Holland. The location of the other specimens will be discussed in conjunction with the forms in question.

Tipula (Acutipula) lieftinckiana sp. n.

Size large (wing, male, 20 mm.); general coloration dark brown, heavily pruinose; wings with a strong brownish tinge, veins *Cu* and *m-cu* seamed with darker; conspicuous pale obliterative areas before cord and beyond the stigma; no dark spot in cell *M*; abdomen black; male hypopygium with median appendage of ninth tergite bilobed at apex; outer dististyle broadest just beyond base; inner dististyle bearing two pairs of conspicuous black spines, its beak slender; eighth sternite with each outer lateral angle bearing a small pale lobe tufted with long setae.

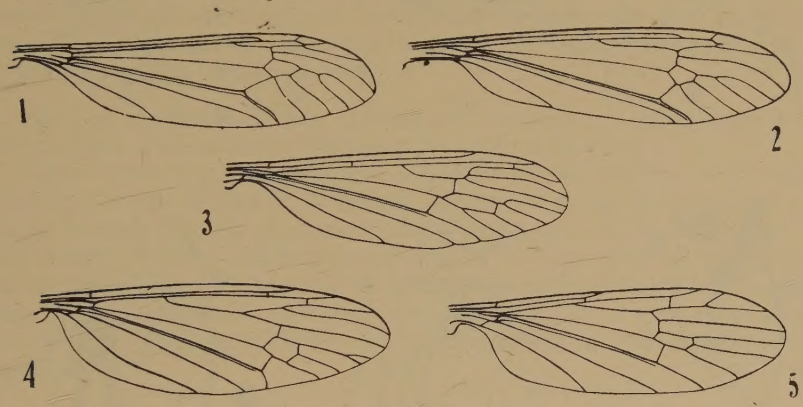
Male. Length about 18 mm.; wing 20 mm.; antenna about 3 mm.

Frontal prolongation of head relatively long, brown above, more reddish-brown beneath; nasus elongate, black; palpi black, the basal segment paler. Antennae relatively short; scape pale brown, pedicel light yellow; flagellar segments weakly bicoloured, dark brown basally, the outer portion obscure yellow; outer segments uniformly darkened; basal enlargements of segments only feebly developed; verticils exceeding the segments; terminal segment elongate-conical, about one-half the length of the penultimate. Head dark brown; vertical tubercle relatively low and inconspicuous; anterior vertex relatively wide, about three times the average diameter of the scape.

Pronotum dark brown, variegated with paler. Mesonotum chiefly dark brown, heavily pruinose, the coloration largely destroyed by water; apparently the ground colour is light grey, with darker brownish-grey stripes; posterior sclerites of notum dark brown, more or less pruinose, the scutellum and postnotum more uniformly dark; parascutella and lateral portions of scutellum somewhat paler; pleurotergite darkened. Pleura with the propleura and dorsopleural membrane pale, the mesepisternum darkened, the meral region again pale. Halteres dark brown. Legs with coxae dark brown, somewhat paler apically; femora reddish-brown, the tips brownish-black; tibiae reddish-brown, the tips somewhat more narrowly blackened; tarsi reddish-brown, passing into brownish-black. Wings (fig. 1) with a strong brownish tinge, the prearcular and costal fields somewhat more yellowish-brown; stigma long and narrow, darker brown; a restricted poststigmal whitened area, involving cell Sc_2 and adjoining portions of R_2; a much more extensive obliterative area extending from before stigma basad of cord, extending into proximal portion of cell M_3, crossing the basal third of cell 1*st* M_2; broad and conspicuous brown seams along *m-cu* and distal section of vein *Cu* and less distinctly along the basal half of the main stem of *Cu* but with no darkening in cell *M*; veins dark brown, more yellowish-brown in the brightened

basal and costal portions. Venation: *Rs* shorter than *m-cu*; cell 1*st* M_2 of moderate size, its inner end only moderately pointed.

Abdomen with basal half of second tergite reddish-brown, the posterior half and broad lateral portions of the basal half brownish-black; succeeding tergites and all but the basal sternites uniformly blackened. Male hypopygium (figs. 6, 7) with the median lobe of tergite, 9*t*, relatively broad, depressed, at apex with two short lobes that are separated by a slightly narrower U-shaped notch that is fringed with delicate setulae; each lobe with abundant blackened spines to produce a macelike appearance; the surface and margin of the lobe back from apex with a few scattered spines and numerous long setae. Outer dististyle, *od*, broadest just beyond base, thence gradually narrowed outwardly, the setae chiefly marginal in distribution. Inner dististyle, *id*, with the lower beak slender; outer lobe with two powerful black spines; in axil between outer lobe and lower beak with a smaller lobe that terminates in two even longer black spines. Ventromesal portion of ninth sternite, on either side of midline, with a conspicuous brush of reddish setae that are directed



FIGS. 1–5.—1, *Tipula* (*Acutipula*) *lieftinckiana* sp. n.; venation. 2, *Tipula* (*Oreomyza*) *hoogerwerfi* sp. n.; venation. 3, *Nipponomyia nigrocorporis* sp. n.; venation. 4, *Hexatoma* (*Eriocera*) *celebesiana* sp. n.; venation. 5, *Erioptera* (*Empeda*) *baluchistanica* sp. n.; venation.

ventrad. Eighth sternite, 8*s*, sheathing, its caudal border broadly truncated, with pale membrane set with numerous setae and delicate marginal setulae; each lateral angle produced into a small pale lobe bearing a brush of much longer setae.

Holotype, ♂, Mount Leuser (Loser), east summit; Atjeh, North Sumatra; altitude 3300–3500 metres; February 1937 (*A. Hoogerwerf*).

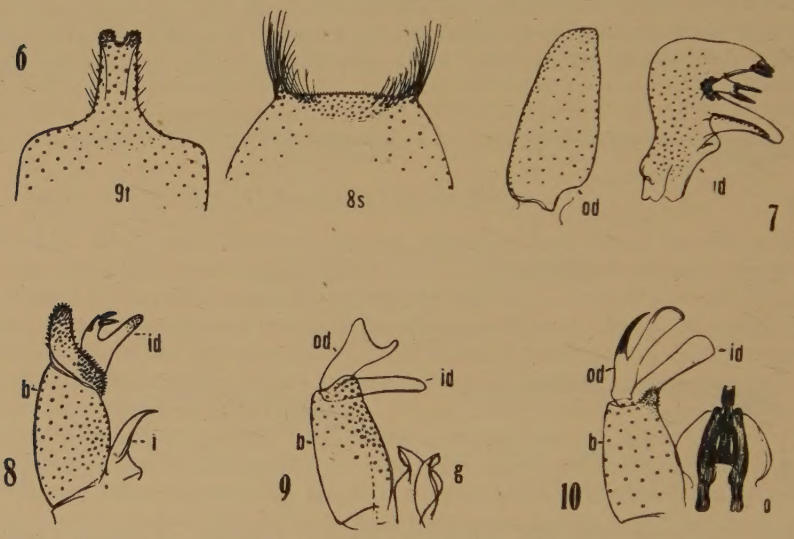
I am pleased to name this interesting fly in honour of Dr. M. A. Lieftinck, to whom I am greatly indebted for many past favours. The species is quite distinct from the other species that have been described from the Indomalayan region. These various species or subspecies include *Tipula* (*Acutipula*) *de meijerei* Edwards, *T.* (*A.*) *jacobsoni* Edwards, *T.* (*A.*) *pseudofulvipennis* de Meijere, and *T.* (*A.*) *umbrinoides* Alexander. It should be noted that these species have been placed in the synonymy of *T.* (*A.*) *quadrinotata* Brunetti, but I am very dubious of such a procedure. We now know that there are many valid species of the genus in Asia and I believe that a critical study of the structure of the male hypopygium must be made before any synonymy can be asserted. It is certain that as regards *umbrinoides* I can see little similarity between this species and *quadrinotata*, of which I have an abundance of material;

all details of venation, as length of *Rs*, shape of upper radial cells, conformation of cell 1*st* M_2, and other features, being entirely different in the two flies.

Tipula (Oreomyza) hoogerwerfi sp. n.

General coloration dark brown, the praescutum with three slightly darker brown stripes that are scarcely differentiated from the ground; antennae bicoloured; wings whitish, handsomely patterned with dark and lighter brown; tip of vein R_{1+2} atrophied; *Rs* unusually long, exceeding three times *m-cu*; abdominal tergites reddish, grey pruinose; sternites reddish, trivittate with dark brown; cerci long and slender, their margins smooth.

Female. Length about 23 mm.; wing 19 mm.; antenna about 3 mm.



FIGS. 6–10.—6, 7, *Tipula* (*Acutipula*) *lieftinckiana* sp. n.; details of male hypopygium. 8, *Nipponomyia nigrocorporis* sp. n.; male hypopygium. 9, *Erioptera* (*Podoneura*) *peregrinator* sp. n.; male hypopygium. 10, *Erioptera* (*Empeda*) *baluchistanica* sp. n.; male hypopygium.

(Symbols: *b*, basistyle; *g*, gonapophysis; *i*, interbase; *id*, inner dististyle; *od*, outer dististyle; *p*, phallosome; *s*, sternite; *t*, tergite.)

Frontal prolongation of head relatively short, brown dorsally, more blackened on sides; nasus distinct; palpi black, the incisures narrowly more reddened; terminal segment broken. Antennae with scape and pedicel yellow; basal two flagellar segments yellow, the succeeding segments bicoloured, their bases infuscated, becoming darker to almost black on the outer segments; basal enlargements only weakly developed; longest verticils a trifle exceeding the segments. Head black, sparsely pruinose, to appear blackish-grey; anterior vertex about twice as wide as the diameter of scape.

Pronotum brown. Mesonotum chiefly dark brown, the praescutum of the unique type badly bent; ground colour brown, with a sparse yellow pollen or weak pruinosity that obscures the ground; three darker brown entire praescutal stripes, the median one vaguely divided by a central vitta; praescutal interspaces with black setigerous punctures that are more or less confluent. Pleura and pleurotergite chiefly dark brown. Halteres with stem yellow, knob weakly darkened. Legs with the coxae and trochanters reddish-brown, sparsely pruinose; remainder of legs broken. Wings (fig. 2) with the ground colour whitish,

handsomely patterned with dark and lighter brown; the major dark areas lie at arculus, origin of *Rs*, fork of *Rs*, and at stigma, the latter two confluent; major paler brown areas in outer radial field, chiefly in cell R_3; before and beyond midlength of cell *M*; in outer end of cell 1*st A* and occupying most of cell 2*nd A*; most of the veins, including *M*, 2*nd A*, and all veins beyond cord with the exception of R_3, narrowly but very conspicuously bordered by dark brown; prearcular field brownish-yellow, brighter behind; cells *C* and *Sc* light brown, the latter brightening to yellow before stigma; a continuous brown marginal seam from vein R_{4+5} to *Cu*; veins yellow in the ground areas, dark brown in the infuscated portions. Macrotrichia on all veins beyond cord and for almost the whole length of *M*. Venation: Tip of R_{1+2} atrophied, with only the basal third persistent; *Rs* unusually long, exceeding three times *m-cu*; cell M_1 about three times its petiole; *m-cu* shortly before fork of M_{3+4}; cell 2*nd A* wide.

Abdominal tergites with the first blackened, more reddish on sides; succeeding tergites rich reddish-yellow, the sublateral portions dark brown, the extreme lateral margins beyond the basal rings yellowish, grey pruinose; subterminal segments narrowly dark brown; sternites reddish, conspicuously and continuously trivittate with dark brown, only the extreme caudal borders of the segments pale. Ovipositor with cerci long and slender, their margins smooth; hypovalvae very short.

Holotype, ♀, Mount Leuser (Loser), east summit; Atjeh, North Sumatra; altitude 3300–3500 metres; February 1937 (*A. Hoogerwerf*).

Tipula (*Oreomyza*) *hoogerwerfi* is dedicated to the collector of the small but interesting series of flies from Mount Leuser. Among the described regional species having heavily patterned wings, it appears to be closest to *Tipula gedehana* de Meijere, differing conspicuously in the venation, as the long *Rs* and atrophied R_{1+2}. I had earlier referred *gedehana* to the subgenus *Vestiplex* Bezzi but in the light of much confusion still existing as to the strict subgeneric characters of *Vestiplex* and *Oreomyza*, the assignment must be considered as being provisional.

Nipponomyia nigrocorporis sp. n.

General coloration uniform black, including the entire thorax and abdomen, the surface subnitidous; legs black; wings pale yellow, handsomely patterned with dark and paler brown, including a series of brown dots and spots along the cephalic half of cell *C*; cell 1*st* M_2 closed; male hypopygium with three black spines on outer lobe of the inner dististyle.

Male. Length, excluding head, about 12 mm.; wing 11·5 mm.

Head broken.

Entire prothorax and mesothorax black, the surface subnitidous; praescutum with long conspicuous erect setae on interspaces. Halteres with stem obscure yellow, the knob weakly infuscated. Legs with the coxae black; trochanters dark brown; remainder of legs brownish-black. Wings (fig. 3) with the ground colour pale yellow, handsomely patterned with brown, including about six major areas in the costal field, the first at and beyond arculus, including cells *Sc*, *R* and *M*; second area at Sc_2, including cells *C*, *Sc* and *R*; third area at and above origin of *Rs*, involving cell *Sc* above the origin, continued distad as a paler seam along *Rs* almost to its fork; fourth and fifth dark areas before and beyond the conspicuous yellow stigma, the former confluent with a somewhat paler brown seam along cord; sixth dark area including the narrow wing tip in cells R_2 to M_1, inclusive; besides the major dark areas there are further paler washes beyond the fork of *Rs*, following veins R_4 and R_5, outer end of cell 1*st* M_2, and as marginal darkenings at ends of all veins beyond the apical area, largest at 2*nd A*; a series of more than a score of brown spots and dots along cell *C*, both before and beyond the humeral cross-vein, occupying the cephalic half of cell, the posterior half clear yellow, these areas small, ill-delimited and more or less

longitudinal in position, not forming clear-cut transverse black dashes as in some allied species; before *h* the dots form a continuous streak, farther distad becoming more scattered and confluent; veins pale brown, somewhat darker in the patterned areas. Costal fringe relatively short but dense. Venation: *r-m* more than one-half its length before fork of *Rs*; cell 1*st* M_2 closed; *m-cu* before fork of *M*.

Abdomen, including hypopygium, black, the more basal sternites slightly more piceous, the extreme caudal borders of tergites four and five whitened. Male hypopygium (fig. 8) with the outer dististyle or lobe of basistyle elongate, closely applied to apex of basistyle, more or less sigmoid in outline, the surface with abundant short black spines distributed throughout the length. Inner dististyle, *id*, bifid, the inner lobe a slender simple blade, the shorter outer lobe terminating in two conspicuous black spines, with a third smaller spine on outer margin just back from tip. Basistyle, *b*, with numerous long setae, those of mesal face unusually long, yellow. Interbase, *i*, acutely pointed at apex.

Holotype, ♂, Mount Leuser (Loser), Atjeh, North Sumatra; altitude 2000–3500 metres, 30 January, 1937 (*A. Hoogerwerf*).

Nipponomyia nigrocorporis is very different from the other described species of the genus, particularly in the uniform black coloration of the body and legs. By my key to the known species of *Nipponomyia* (1935, *Philipp. J. Sci.* **56**: 551–552), the fly runs with some difficulties to *N. symphyletes* (Alexander), of Formosa, which differs conspicuously in the coloration of the body and legs. The only other species of the genus known from Sumatra is *N. sumatrana* (de Meijere), the type of which was taken in June 1917 by Edward Jacobson on Mount Talamau (Mount Ophir of Wallace and other early workers). Since the specimens were collected in June it is probable that such material was taken at or near the exact summit of Talamau (2912 metres) where Jacobson collected on 6 June, 1917. This latter fly is entirely distinct from the species herewith described as new.

Hexatoma (Eriocera) celebesiana sp. n.

Belongs to the *dichroa* group; general coloration black, abdominal segments two to six bright orange, the tergites with a narrow transverse black line immediately before apex; halteres and legs black; antennae black, the basal two flagellar segments brownish-yellow; wings conspicuously blackened; cell M_1 present; abdomen (male) flattened dorsoventrally, its greatest width about two-thirds that of wing.

Male. Length about 13 mm.; wing 11·5 mm.

Rostrum and palpi black. Antennae 7-segmented; scape and pedicel brownish-black; basal two flagellar segments brownish-yellow, the outer ones black; flagellar segments long-cylindrical, with conspicuous black setae. Head blackish-grey; vertical tubercle poorly developed.

Thorax almost uniformly blackened, the surface very sparsely pruinose; mesonotum with relatively abundant, coarse, black setae. Halteres black, the extreme base of stem brighter. Legs black throughout. Wings (fig. 4) conspicuously blackened, the basal and costal portions somewhat more intense; a pale streak in basal half of cell 1*st A* adjoining the vein; veins dark brown. Macrotrichia of veins beyond cord abundant and conspicuous, especially in outer radial field, becoming more sparse on medial veins, on M_4 restricted to two or three trichia at extreme outer end. Venation: *Sc* long, Sc_1 ending beyond mid-length of vein R_{2+3}; R_{1+2} and R_{2+3+4} subequal in length, both longer than R_{2+3}; cell M_1 present but relatively small and weak, about two-thirds its petiole; cell 1*st* M_2 short-rectangular; *m-cu* about two-thirds its own length beyond the fork of *M*.

Basal abdominal segment dark brown; tergites two to six, and the lateral portions of seven, bright orange with a narrow transverse black line just before apex of tergites two to

six, inclusive; terminal segments, including the small hypopygium, black; sternites coloured like the tergites but with the blackened lines lacking; abdomen conspicuously flattened dorso-ventrally, its greatest width about two-thirds that of the wing.

Holotype, ♂, Lonrong Wasamponc, south-western Celebes, altitude 150 metres, June 1936 (*L. J. Toxopeus*); returned to Dr. Lieftinck.

Hexatoma (*Eriocera*) *celebesiana* is most similar to species such as the Chinese *H.* (*E.*) *abdominalis* (Alexander) and *H.* (*E.*) *platysoma* Alexander, where the abdomen of the male sex is similarly very wide and conspicuous. Both of these species have cell M_1 of the wings lacking. The Philippine *H.* (*E.*) *lativentris* (Bezzi) has the abdomen somewhat similarly dilated but is an entirely distinct species. By Edwards' key to the Old World species of the subgenus (1921, *Ann. Mag. nat. Hist.* (9) **8** : 70–78), the present fly runs to *H.* (*E.*) *xanthopyga* (de Meijere), which is again entirely different, with the abdomen of the male of normal form.

Eriopṫera (Podoneura) peregrinator sp. n.

General coloration of mesonotum buffy to grey, the praescutum with three approximated brown stripes, the lateral pair interrupted by the long black pseudosutural foveae; legs uniformly brownish-black; wings brownish-yellow, abundantly dotted with pale brown; male hypopygium with the outer dististyle broadly expanded outwardly, entirely glabrous; inner style a relatively slender, flattened blade.

Male. Length about 5 mm.; wing 5·5 mm.

Rostrum and palpi brown. Antennae relatively short, dark brown throughout; flagellar segments suboval to subcylindrical. Head grey; anterior vertex more than twice the diameter of scape.

Pronotum buffy on sides, dark brown above. Mesonotal praescutum brownish-buff, with three approximated brown stripes, the lateral pair interrupted by the long conspicuous black pseudosutural foveae; scutum grey, the lobes vaguely patterned with brown; scutellum brownish-grey, with a dark brown median dash; postnotum brownish-grey, vaguely patterned with brown. Pleura brownish-grey, including the dorsopleural membrane. Halteres infuscated. Legs with the coxae brownish-grey; trochanters brown; remainder of legs uniformly brownish-black. Wings with the ground colour brownish-yellow, abundantly dotted with pale brown, the basal portions almost as far as the general level of origin of *Rs*, cells *C* and *Sc*, and the vicinity of the cord more nearly free from pattern; extreme wing tip and cell *2nd* A_2 also nearly unpatterned; elsewhere the dots are very abundant and more or less confluent; veins brown, paler in the more brightened areas. Macrotrichia of veins beyond cord almost lacking except on R_{1+2} and tip of R_5. Venation: Sc_1 ending opposite R_2, Sc_2 almost exactly opposite midlength of *Rs*; R_{2+3} and R_2 subequal; *m-cu* oblique, more than one-third its length before the fork of *M*; the *Podoneura* cell (*2nd* A_2) moderately sprawly.

Abdominal tergites dark brown, sparsely pruinose, the median area more reddish-brown; sternites more greyish, with a brown median vitta, the extreme caudal borders of the segments more brightened; hypopygium dark. Male hypopygium (fig. 9) with the outer dististyle, *od*, broadly expanded outwardly, entirely glabrous; inner angle produced into a narrow arm, the tip obtuse. Inner dististyle, *id*, a long, relatively slender, flattened blade, the tip obtuse. Basistyle, *b*, with numerous long setae near apex and along mesal face but these sparse or lacking on basal portion of outer face. Gonapophyses, *g*, flattened, the larger outer blade terminating in a flange that bears a few obtuse teeth or crenulations.

Holotype, ♂, Central Asiatic U.S.S.R.; label (in Russian) translated reads: "Second mill, Mendeynk, Snegirev, 20 April, 1926"; Alexander Collection.

Received in exchange with Lackschewitz, who also distributed specimens to the British Museum (Natural History), through Edwards.

All other known species of the subgenus *Podoneura* Bergroth are African (Alexander, 1930, The African Republic of Liberia and the Belgian Congo, *Rept. Harvard African Expedition* 1926–1927, **2** : 1017–1018). The present fly is readily distinguished by the abundantly dotted wings and, especially, the structure of the male hypopygium.

Erioptera (Empeda) baluchistanica sp. n.

General coloration dark grey; halteres yellow; femora brown, a trifle brightened at base; tibiae and basitarsi yellow, the tips narrowly infuscated; wings greyish-yellow, the veins yellowish-brown, relatively inconspicuous; *Sc* short; vein R_3 unusually short and oblique; cell 1*st* M_2 closed; *m-cu* more than one-half its length beyond the fork of M; male hypopygium with the outer dististyle bifid, the outer arm a blackened rod that narrows to an acute spinous point; phallosome relatively large and conspicuous.

Male. Length about 3·5 mm.; wing 3·5 mm.

Rostrum dark brown, grey pruinose; palpi dark brown. Antennae brownish-black, relatively short; flagellar segments oval. Head grey; anterior vertex relatively wide, at narrowest point nearly three times the diameter of scape.

Pronotum and mesonotum almost uniformly dark grey, the pretergites a little more brownish-yellow; pseudosutural foveae and tuberculate pits black. Pleura dark grey; dorsopleural membrane brown. Halteres clear light yellow, especially the knobs. Legs with the coxae grey pruinose; trochanters obscure yellow; femora brown, a trifle brightened at base; tibiae and basitarsi yellow, the tips narrowly infuscated; remainder of tarsi passing into black. Wings (fig. 5) greyish-yellow, the stigmal region not or scarcely darker; prearcular and costal fields clearer yellow; veins pale yellowish-brown, relatively inconspicuous against the ground. Costal fringe short but dense; veins beyond cord almost glabrous; distal section of R_5 with numerous trichia over virtually the whole length. Venation: *Sc* short, Sc_1 ending about opposite one-third the length of *Rs*, Sc_2 slightly removed from its tip, at near mid-distance between origin of *Rs* and tip of Sc_1; R_{2+3+4} subequal to R_2; R_3 unusually short and oblique, cell R_3 thus being more like *Gonempeda*; distance on wing margin between veins R_{1+2} and R_3 about equal to the latter vein; cell 1*st* M_2 closed, about one-half as long as vein M_3 beyond it; *m-cu* at near one-third the length of cell, or more than one-half its own length beyond fork of M; Anal veins divergent.

Abdomen, including hypopygium, dark brownish-black, sparsely pruinose. Male hypopygium (fig. 10) with the outer dististyle, *od*, bifid, its outer arm a little shorter, appearing as a slender rod that narrows to an acute spinous point; inner arm expanded outwardly, the apex short-cultriform. Inner dististyle, *id*, a simple brownish-yellow flattened blade that has somewhat the same outline as the inner arm of the outer style; surface, especially the ventral edge, with a few microscopic setulae. Phallosome, *p*, relatively large and conspicuous, sclerotised and darkened, appearing about as shown.

Holotype, ♂, Quetta, northern Baluchistan, April 1931 (*Haroonkhan*); returned to the Imperial Institute of Entomology, London.

This fly is readily told from all other regional members of the subgenus by the venation, especially the short oblique vein R_3 and the closed cell 1*st* M_2. In the venation, the fly is somewhat more as in the subgenus *Gonempeda* Alexander, but from the structure of the male hypopygium it is a member of the typical subgenus.

TWO NEW SPECIES OF *PRISTOMYRMEX* MAYR (HYM. FORMICIDAE), WITH SOME NOTES ON THE GENUS

By Horace Donisthorpe, F.Z.S., F.R.E.S.

Pristomyrmex castor sp. n.

♀. Orange yellow, shining, furnished with sparse outstanding yellow hairs, eyes and teeth of mandibles black.

Head without mandibles transverse, massive, broader than thorax, posterior angles rounded, posterior border slightly excised in middle, cheeks straight; *mandibles* powerful, triangular, rather widely and strongly longitudinally striate, with a few punctures in the interstices, armed with four strong blunt teeth, the posterior three being shorter and blunter; *clypeus* transverse, anterior border crenulate, rather flat posteriorly with a narrow raised central carina; *frontal area* ill defined with a narrow central carina and fine longitudinal striae on each side; *frontal furrow* narrow, shallow, extending half-way to median ocellus; *frontal carinae* diverging behind, embracing a rather broad flat space which is punctured with a few rather large shallow umbilicate punctures, a few faint not close longitudinal striae are present between eyes and antennal fovae; *antennal fovae* large, deep, round, and margined with a number of narrow, low, circular ridges; *ocelli* small, not prominent, situated on posterior part of top of head; *eyes* large, not very convex, slightly longer than broad, furnished with numerous facets; *antennae* 11-jointed, stout; *scape* curved, considerably widened to apex, not reaching as far as posterior border of head, *funiculus* with stout joints increasing in breadth to apex, first joint about as long as broad, the rest getting gradually longer than broad, last joint bluntly pointed, slightly longer than the two preceding taken together. *Thorax* short, convex, narrowed in front and behind, broadest at insertion of wings; *pronotum* transverse, very narrow anteriorly, embracing mesonotum at sides, sides punctured with wide apart shallow umbilicate punctures; *mesonotum* very convex on disc, anterior border narrowly margined, punctured with wide-apart rather large shallow punctures, suture between mesonotum and praescutellum narrow but deep; *praescutellum* very narrow in centre, rather wide at sides, with a few shallow round punctures; *scutellum* transverse, convex, punctured with a few scattered, large, shallow, umbilicate punctures; *metanotum* transverse, very narrow, slightly convex; *epinotum* armed with two short pointed teeth, *dorsal surface* convex, transverse, with three shallow punctures on disc situated one above the other, the lowest being the broadest, a transverse furrow is present before excised ridge separating the declivity, *declivity* very smooth and shining, considerably hollowed out, with raised side margins. *Petiole* long with long peduncle, sides of peduncle almost straight to just before base where a short projection is present on each side, node high, broader than peduncle, convex and rounded above, sides almost straight, apical border truncate; *post petiole* convex and rounded above, broader than node of petiole, broadest just before apex, with a very small, short tooth beneath. *Gaster* convex, round oval, narrowed behind, very smooth and shining. *Legs* stout, moderate, *claws* rather long and narrow. *Wings* as in the ♂, but more ample. *Long.* 8 mm.

Described from two winged females taken by Miss L. E. Cheesman, Papua, Kokoda, 1200 ft., one in April, the other in October, 1933.

Type in the British Museum (N.H.).

This is probably the largest species in the genus. It comes nearest to *P. parampunctatus* Emery from New Guinea, which has been taken by Mr. G. E.

Bryant also at Penang. *P. castor* is a little larger, lighter in colour, and the wings are considerably darker. In *parampunctatus* the puncturation is much more marked; being closer, stronger and coarser.

♂. Head, thorax, petiole, post petiole, antennae except scape, first joint of funiculus, and extreme tip of last joint, black; gaster yellow, legs, scape, first joint of antennae and extreme tip of last joint reddish-yellow; clothed with longer and shorter more or less outstanding black hairs.

Head not including eyes a little longer than broad, sides of head behind eyes rounded to posterior angles, posterior border slightly rounded; *cheeks* short, rounded beneath, slightly narrowed from eyes to base of clypeus; *mandibles* very short, small, triangular, sharply pointed, space between very wide; *clypeus* transverse, narrow, convex in middle, anterior border almost straight, with a finely raised narrow margin; *frontal carinae* short, low, rather wide apart, divergent behind; *eyes* large, convex, longer than broad, situated at sides of head; *ocelli* moderate; *antennae* long, 12-jointed, *scape* short, smooth, shining, rather stout, not as long as the first two joints of the funiculus taken together, *funiculus* with first joint smooth and shining, very short, about as long as broad, the rest of the joints pubescent and hairy, considerably longer than broad, last joint about as long as the two preceding taken together, slightly broader and pointed at apex. The puncturation of the head consists of fairly large shallow pits, surrounded by a network of raised borders, widely transversely striate between base of scape and eyes, spaces between the striae smooth and shining; a smooth shining space is present on vertex of head. *Thorax*, short, convex, narrowed in front and behind, broadest before insertion of wings. The puncturation is similar to that of head, but somewhat coarser, the pits being slightly larger; *pronotum* transverse and narrow, separated from mesonotum by a narrow shining slightly raised border; *mesonotum* convex, narrowed in front, broadest before base, slightly overlapping the pronotum, a smooth shining space, considerably narrower behind, extends from anterior border to beyond middle; *mayrian furrows* very broad and shallow, with widely separated oblique striae; *parapsidal furrows* short, broad, but narrower than mayrian furrows, consisting of rather large shallow pits; *praescutellum* transverse, flat, anterior border straight, with seven raised ridges extending to anterior border of scutellum, spaces between smooth and shining; *scutellum* transverse, convex, projecting, narrowed to, and rounded at, base, broadest before middle, punctured with round, shallow, fairly large pits; *metanotum* transverse, narrow, smooth; *epinotum* armed with two short pointed but not sharp teeth, the space between circularly excised, *dorsal surface* convex, with a number of longitudinal raised ridges, spaces between smooth and shining, the central pair diverging to base of teeth, a transverse ridge extends from one to the other before base, *declivity* concave, hollowed out, smooth and shining, slightly longer than dorsal surface. *Petiole* long, with peduncle narrower, but about as long as node, smooth, shining and flat above, sides narrowly bordered, node oblong, convex but not high, smooth and shining above, sides slightly rounded, punctured with small shallow pits; *post petiole* slightly longer than broad, about as broad as petiole, smooth and shining above, sides slightly rounded, anterior border slightly excised, beneath a small tooth projecting forwards is present at base; *gaster* long, oval, sides rounded and narrowed to base, smooth and shining. Stipites somewhat broad, bluntly pointed. *Legs* long. *Wings* blackish, hairy, *pterostigma* and *veins* dark brown, one *cubital cell* present, *radial cell* open. *Long.* 6·5 mm.

Described from a single male taken by Miss L. E. Cheesman, Papua, Kokoda, 1200 ft., August 1933.

Type in the British Museum (N.H.).

Although not actually taken with the two females described above, I have little doubt that it is the male of *castor*.

Pristomyrmex pollux sp. n.

♂. Black, shining, legs and antennae brown, apex of scape, first joint of funiculus and articulations of legs lighter, clothed with abundant long outstanding black hair. Head and thorax closely punctured with larger and smaller shallow punctures.

Head without eyes rather narrow and longer than broad, rather high in profile, posterior angles bluntly angled, posterior border with a narrow raised border, slightly excised in middle; *mandibles* very short, small, pointed, widely distant; *clypeus* small, convex, strongly arched in middle, anterior border projecting in centre; *frontal carinae* short, low, rather close together, slightly divergent behind, a small oval longitudinal smooth space is present on top of head before ocelli; *ocelli* fairly large, prominent, situated on top of crown of head; *eyes* very large, oval, prominent, situated on each side of the head; *antennae*: right antenna abnormal, 11-jointed, last joint thickened and curved, left antenna normal, 12-jointed, scape and first joint of funiculus smooth and shining, rest of joints pubescent, *scape* cylindrical, longer than broad, as long as the two first joints of the funiculus taken together; *funiculus* with first joint short, as long as broad, all the rest longer than broad, last joint as long as the two preceding taken together. *Thorax* short, narrowed in front and behind, broadest at insertion of wings; *pronotum* transverse, narrow in front with a short neck, sides triangular, rather long and wide, projecting slightly over pronotum; *mesonotum* ample, convex at apex, rather flat at base; *mayrian furrows* wide and strongly marked, consisting of rather large deep punctures separated by narrow ridges; *praescutellum* rather broad at sides, some eight narrow longitudinal ridges connect it with scutellum; *scutellum* transverse, not higher than mesonotum, base rounded, extending above metanotum, a rather deep transverse furrow, which is longitudinally striate, is present on each side at base; *metanotum* transverse, narrow, smooth and shining; *epinotum* armed with two fairly long triangular teeth, rather broad at base, *dorsal surface* slightly concave, margined on each side with two longitudinal ridges, a narrow transverse ridge connects them before space between teeth, and two similar ridges are present between teeth, *declivity* considerably hollowed out, smooth and shining. *Petiole* long, node broader than peduncle but neither broad nor high, smooth and shining on disc, considerably punctured at sides, posterior border truncate; *post petiole* a little longer than broad, about as broad as node, smooth and shining on disc, punctured at apex and sides, a blunt short tooth projecting downwards is present beneath at base; *gaster* smooth and shining, long, oval, narrowed at apex, truncate at base. *Stipites* not broad, bluntly pointed. *Legs* moderately long and slender. *Wings* brown, hairy, *pterostigma* and *veins* dark brown, one large cubital cell, and radial cell open, present. *Long.* 5·3 mm.

Described from a single male taken by Mr. G. E. Bryant at Penang, 6 November, 1913. I think it is improbable that the above described insect is the male of any known species. It is true that Bryant took the female of *P. parampunctatus* Emery at Penang, but one would expect the male of that species to be larger, and also in part to be yellow in colour.

Type in the British Museum (N.H.).

Only three males of *Pristomyrmex* species have been described heretofore—*P. brevispinosus* Emery 1887, *P. obesus* Mann in 1919 by W. M. Mann from the Solomon Islands, and *P. pungens* Mayr in 1928 by Wheeler. Forel's ♂, 1912, of *P. picteti* Emery appears to be doubtful.

Mayr created the genus *Pristomyrmex* for the reception of *P. pungens* Mayr ☿ 1866. Emery (1922) unfortunately gave the date for *pungens* as 1886, although he had correctly given that of the genus as 1866. Forel redescribed *pungens* under the name of *P. japonicus* ☿, 1900, from Japan. Of course his name sinks as a synonym.

The distribution as given by Emery (1922) is as follows: " Indo-China, Japon, Malaisie jusqu'à la Nouvelle-Guinée, Australie." Since then, however, two species have been described from East Africa, by Arnold and Karawajew respectively. Arnold made no comment on the curious fact that a species of *Pristomyrmex* should be found in Africa. Karawajew, however, who was evidently unaware of Arnold's species, remarks that the discovery of a species in British East Africa is very remarkable and widens our knowledge of the geographical distribution of the genus.

Santschi (1923) writes: " *Pristomyrmex orbiceps* Sants. (1916) = *Xiphomyrmex orbiceps* Sants. (1914). *Pristomyrmex fossulatus* (For.) Sants. (1916) = *Xiphomyrmex fossulatus* For. (1918) (sic!). J'avais déjà signalé cette mutation dans le Bull. Soc. Ent. France p. 51 (1916) mais cela avait échappé à Mr. Emery dans ses ' *Myrmicinae* ' du Genera Insectorum et dans Wheeler dans ses ' Ants of the Belgian Congo.' Le genre *Pristomyrmex* n'était pas encore connu en Afrique."

Forel, of course, described *Xiphomyrmex fossulatus* in 1910. These changes were also missed in the *Zoological Record*.

Emery in the *Genera Insectorum* (1922) lists thirteen species of *Pristomyrmex*, one subspecies, and three varieties. Since that publication the following new forms have been described: *P. africanus* Karawajew, ♀, 1931, British East Africa. *P. quadridens* Emery var. *aruensis* Karawajew, ☿, 1933. Curiously enough he again describes the same variety from the exact same locality in 1935. *P. cribarius* Arnold, ♀, 1926, Portuguese East Africa. *P. mendanai* Mann, ☿, 1919, Solomons. *P. obesus* Mann, ☿♀♂, 1919, Solomons. *P. obesus* Mann, subsp. *melanoticus* Mann, ☿, 1919, Solomons. *P. pegasus* Mann, ♀, 1919, Solomons. (It is rather extraordinary that Emery, in 1922, should have overlooked these last four forms.) *P. taurus* Stitz, ☿, 1925, Philippines. *P. picteti* Emery var. *tingiana* Stitz, ☿, 1925, Philippines. With the two new species described in this paper the list is brought up to twenty-three species (including the two species referred to by Santschi), two subspecies, and five varieties.

Very little is known about the habits of these ants; they are generally found singly, on the trunks of trees, under stones, etc. Mann found a small colony of *obesus* under a stone at Fulakora, Solomons, consisting of less than a dozen workers, a deälated female, and one male.

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NEW ETHIOPIAN AND ORIENTAL DRAGONFLIES (ORDER ODONATA)

By Lt.-Col. F. C. Fraser, I.M.S. Rtd., F.R.E.S.

Forming part of a large collection of Odonata made in Uganda in 1927 by Professor G. D. Hale Carpenter, are five specimens of a new and interesting species belonging to the genus *Oxythemis* Ris.

This genus was described by its author in the year 1909 from a single male specimen and has remained a monotypic one ever since. *Oxythemis phoenicosceles* Ris is from West Africa; the type, formerly in the Martin collection, is now lodged in the Paris Museum. It is described in 1909, *Cat. Coll. Selys, Libellulinen* **10** : 163, fig. 119, the figure depicting the wings, which differ only in the minutest details from those of the new species described below.

A second new dragonfly, described below, comes from Kuala Lumpur, Federated Malay States, and was taken by Mr. H. M. Pendlebury of the F.M.S. Museums. The species, which is a *Hemicordulia*, is represented by a single specimen which is unfortunately a female. One would hesitate generally before describing a new species from this sex but in this genus the two sexes are similarly marked and coloured and differ only in genital characters so that the objection may be waived : moreover there seems small chance of the male being discovered for many years, the female having been taken over twelve years ago in a district in which intensive collecting has been carried on for many years. The capture of this specimen was a pure chance, the creature having come to " light," a rare circumstance in this Order.

Oxythemis carpenteri sp. n.

Male : Abdomen 21 mm. Hind-wing 24 mm.

Head : labium very pale ochreous unmarked; labrum of similar colour but the middle part of its base, the whole of the clypeus and the lower part of sides of frons pale olivaceous : rest of frons rather sharply demarked a darker olivaceous : vesicle dull coppery crimson : occiput very small, dark reddish to ochreous : behind eyes and head bright ochreous. Prothorax dark reddish-brown on dorsum and laterally, this colour thinly pruinosed. Low down on the sides and including the coxa and trochanter, bright ochreous. Posterior lobe small, bilobate, fringed with long pale hairs. Thorax on dorsum and for the upper three-fourths of the sides black but appearing purplish-blue in the adult due to a thin overlay of pruinescence (this colour is best likened to that of a ripe damson with the bluish-purple bloom on it). Lower parts of sides and anterior part of pectus bright citron yellow, contrasting sharply with the dark colouring above it. Posterior part of pectus dirty white or palest olivaceous, this area again sharply defined from the anterior citron yellow. Legs black on flexor surfaces, bright citron yellow on extensor, but the latter colour partly obscured on the tibiae of the middle and hinder pairs of legs. Tarsi and claws black. Wings hyaline, apices tipped for a variable extent with reddish-brown, this extending inwards at the most to distal end of pterostigma : a small golden-yellow spot at base of hind-wings, not quite extending to the cross-vein Ac and ending well short of the tornus. Pterostigma 2·75 to 3·0 mm. long, bright ochreous bordered by thick

blackish-brown nervures, especially costalwards. Discoidal cells of fore-wings traversed once, those of the hind-wing entire; nodal index—$\frac{6\text{–}9 \mid 11\text{–}7 \quad 7\text{–}10 \mid 10\text{–}7}{7\text{–}8 \mid 9\text{–}7' \quad 8\text{–}9 \mid 8\text{–}7}$; all hypertrigones entire, subtrigones in fore-wings 3-celled; only one cubital cross-vein in all wings; discoidal field in fore-wing begins with a row of three cells and is continued as rows of 2 for three or four rows; CuP in hind-wing at anal angle of discoidal cell; arculus opposite the 2nd antenodal but more often between the 2nd and 3rd. All antenodal and postnodal cross-veins and many adjacent cross-veins pale yellow, the remaining veins black. Membrane pale yellow. Other details similar to that of *O. phoenicosceles*. Abdomen narrow, tapering very slightly and evenly towards the end, strongly keeled, dark purplish-black

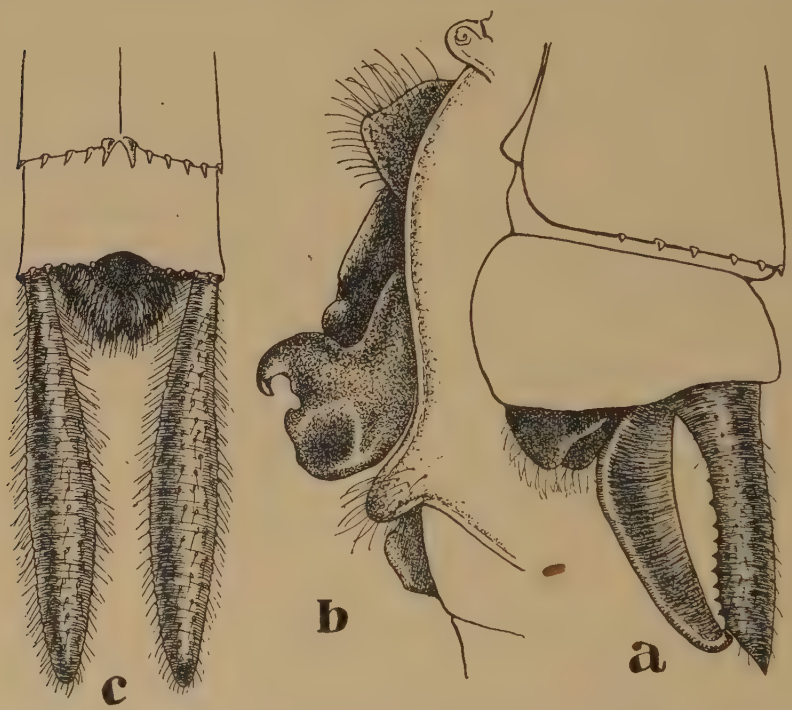


Fig. 1.—*a*. Anal appendages of *Oxythemis carpenteri* sp. n., seen from the left side. *b*. Secondary genitalia of same seen from the left side. *c*. Anal appendages of *Hemicordulia gracillima* sp. n., dorsal view.

due to thin pruinescence: pale greenish-yellow beneath but with pale brownish paired apical markings on segments 3 to 8. Anal appendages black, simple, cylindrical, slightly constricted at base, slightly broadened at apex, which is acutely pointed: directed straight posteriorwards and but slightly curved and with a row of robust spines on ventral border to the number of 8 or 9: inferior appendage but slightly shorter than superiors which equal segment 9 in length. Secondary genitalia: lamina hood-shaped, projecting moderately, hamules robust, hooks shaped like a partially opened parrot's beak, lobe very small, overlapped by the hamules.

Female. Abdomen 20–21 mm. Hind-wing 24 mm.

Head similarly coloured to male but rather paler, the distinction in colour between clypeus and frons much less marked. Prothorax pale ochreous with obscure brownish

clouding on dorsum: posterior lobe much smaller, quadrate. Thorax dull olivaceous brown on dorsum, pale greenish-yellow laterally and beneath, the only dark marking being a narrow sharply defined blackish-brown humeral stripe. Legs coloured similarly to the male. Wings hyaline, palely and evenly tinted with yellow, apices clear or tipped with brown as in the male, but the cell middles of this coloured apex clear: basal yellow spot of hind-wing smaller and paler. Pterostigma similar to the male: nodal index—$\frac{7–11 \mid 11–7 \quad 7–10 \mid 9–8}{7–10 \mid 8–8}$, $\frac{}{7–10 \mid 10–7}$: other details similar to those of male. Abdomen bright ochreous with narrow black apical annules on segments 3 to 8 and a very broad dorsal black stripe running from the base of segment 3 to segment 10, this stripe narrowing slightly basally on all segments from 3 to 7. Vulvar scales very minute, two tiny triangular structures in close contact less than 0·5 mm. in length. Anal appendages dark brown, slightly longer than segment 10, conical, pointed at apex.

Habitat: 3 males and 2 females, UGANDA: White Nile, R. Alla, Sept. 27, coll. G. Hale Carpenter.

This new species agrees in size and venation of wings with *phoenicosceles* but differs entirely in its markings and colouring. Thus in the latter the labrum is black, the labium broadly black in the middle, the face and frons are dark reddish-brown, the latter dull blue metallic above, the thorax is black with a median and two lateral reddish bands, the legs are blood-red and there are reddish spots on parts of the abdomen. All these contrast strongly with the purplish-black and citron yellow which are the dominating colours in *carpenteri*. *Type* male and allotype female will be deposited in the British Museum (N.H.), cotypes in the Fraser collection. The addition of this new species to *Oxythemis* calls for some slight modifications in the generic diagnosis. These are as follows:—Arculus at the 2nd antenodal up to midway between the 2nd and 3rd; CuP in hind-wing at or slightly separated from the anal angle of discoidal cell; Riii slightly and variably undulated. Vulvar scales minute inconspicuous triangular processes.

Hemicordulia gracillima sp. n.

Female. Abdomen 33 mm. Hind-wing 30 mm. Male unknown.

Head: labium pale yellow, labrum and face ochreous changing to bright orange on front of frons: upper part of latter bluish-green metallic; vesicle and occiput dark reddish-brown, the former dully metallic; behind head and eyes glossy black. Prothorax dull brown. Thorax dark reddish-brown on dorsum below, metallic green on upper half. Laterally broadly metallic green traversed by a broad oblique median yellow stripe. Beneath bright ochreous with the metallic green invading it laterally at a point. The whole of thorax on dorsum and sides clothed with thick greyish hairs. Legs on the inner sides and the whole of the anterior pair of femora reddish-brown, outwardly black. Wings hyaline, the hind with a basal golden yellow marking extending outwardly to the first antenodal vein and just beyond the cross-vein Ac; membrane cinereous, bordered by yellow. Nodal index—$\frac{5–7 \mid 7–6}{6–5 \mid 5–6}$; other details as for genus; pterostigma very short, 1·5 mm. in fore-wings, 1·0 mm. in the hind-wings, black. Abdomen very long and *very slender*, less than 1·0 mm. wide for the greater part of its length, black inclining to reddish-brown on the sides of the first 2 segments. Anal appendages *very long*, 2·75 mm. (a great length for the female sex), longly fusiform in shape. Vulvar scales small, triangular or tongue-shaped with apices directed posteriorwards, slightly separated, about one-third the length of segment 9.

Habitat: Federated Malay States: Kuala Lumpur, 26.iii.32, coll. by H. M. Pendlebury, at "light."

This is the first record of a Corduline being taken at "light," and suggests that the insect may be crepuscular, although the family is essentially one of sun-lovers. The species by its small size and very slender build is probably closely related to *H. tenera* Lieftinck and *sylvarum* Ris. The former is from Java and known only from a single male and differs from the present species by its face and frons being dirty olive brown, by the absence of a yellow lateral thoracic stripe and by the membrane being reddish. *H. silvarum* is from New Guinea and known from both sexes both of which have the wings coloured broadly yellow and the abdomen spotted with yellow. *H. oceanica* Selys agrees in colouring with this new species but the female has short anal appendages which serve to separate it at a glance. Only one other Hemicorduline is known from continental Asia, viz. *H. asiatica* Selys, which is a much more robust insect and in which the anal appendages of the female are short. The *type* belongs to the Federated Malay States Museums, but as things stand at present, it seems best to deposit it in the British Museum (Natural History).

Errata: In my paper on "The significance of vestigial oblique veins in the evolution of intercalated veins in the odonate wing, with the description of a new genus," *Proc. R. ent. Soc. Lond.* (B) **13,** for "(Ac)" on line 9, page 60, read "(Ab)".

ADDITIONS TO THE LIST OF ODONATA OF THE EASTERN MEDITERRANEAN ISLANDS

By J. Cowley, M.A., F.R.E.S.

In 1940 I published a list of the Odonata of the eastern Mediterranean islands (*Proc. R. ent. Soc. Lond.* (B) **9**: 172–178), although these islands were erroneously referred to in the title and in the text as being of the *western* Mediterranean area. Unfortunately I overlooked a paper by F. Werner, 1938 (Ergebnisse der achten zoologischen Forschungsreise nach Griechenland (Euboea, Tinos, Skiathos, Thasos usw.) *S.B. Akad. Wiss. Wien* (I) **147**: 151–173), from whose records a number of additions must be made to the list. Omitting Euboea as being more properly included with the Grecian mainland, two species have to be added to the list (*Erythromma viridulum*, *Gomphus flavipes*), one species each to the lists for Naxos (*Ischnura elegans*) and Tinos (*Platycnemis pennipes*), and records for no less than ten islands from which Odonata had not previously been recorded: Andros (1 species), Delos (1), Kythera (Cerigo) (2), Lemnos (3), Milos (1), Mykonos (1), Nikaria (Icaria) (1), Psara (1), Seriphos (1), and Skiathos (1). Comparison of the Odonate fauna of the islands of this area with that of adjacent areas would not be of much significance until there is more material available, and in particular it may be mentioned that the dragonflies of the adjacent areas are either imperfectly known, or include peculiar and interesting species or subspecies, so that even casual collections made by anyone who may be able to do so from the following regions would be of much scientific value and interest: Balkans, Asia Minor, Caucasia,

Turkestan, Iran, Iraq, Syria, Palestine, Egypt, North Africa. In some of these areas at least there is a marked tendency to form more or less distinct subspecies which still require careful study. It may indicate something of our lack of knowledge to note the numbers of species and subspecies recorded : E. Mediterranean Is. 40 (Crete 20, Corfu 13, Rhodes 10, other islands 6 or less), Cyprus 21, Syria 39, Palestine 42, all these areas together with Greece and Asia Minor at least 90; these figures are no doubt still far from complete.

The additional records given by Werner in the paper cited are as follows :—

Platycnemis pennipes pennipes (Pallas, 1771).

Platycnemis pennipes Werner, 1938 : 164. Andros; Lemnos; Tinos.

It is by no means certain whether the above records, and those previously listed by me (1940), really refer to subsp. *pennipes* or to subsp. *insularis*.

Ischnura elegans (Van der Linden, 1820).

(subsp. *ebneri* Schmidt, 1938 ?)

I. elegans Werner, 1938 : 164. Naxos.

Erythromma viridulum (Charpentier, 1840).

E. viridulum Werner, 1938 : 164. Mykonos.

Gomphus flavipes (Charpentier, 1825).

(subsp. *flavipes* ?).

G. flavipes Werner, 1938 : 165. Lemnos.

Orthetrum brunneum brunneum (Fonscolombe, 1837).

O. brunneum Werner, 1938 : 165. Kythera; Lemnos; Lesbos; Milos; Nikaria; Seriphos.

Orthetrum coerulescens (Fabricius, 1798).

O. coerulescens Werner, 1938 : 165. Skiathos : Limeni.

Libellula depressa Linnaeus, 1758.

L. depressa Werner, 1938 : 165. Kythera.

Crocothemis erythraea erythraea (Brullé, 1832).

C. erythraea Werner, 1938 : 165. Delos.

Sympetrum meridionale (Selys, 1841).

S. meridionale Werner, 1938 : 165. Psara.

HABROCYTUS BEDEGUARIS THOMSON AND *H. PERICLISTI* SP. N. (HYM., PTEROMALIDAE) REARED FROM GALLS OF *RHODITES ROSAE* (L.)

By E. McC. Callan, B.Sc., A.R.C.S., D.I.C., Ph.D., F.R.E.S.

(*Entomology Department, Imperial College of Tropical Agriculture, Trinidad, B.W.I.*)

In studying the community of insects inhabiting the galls of *Rhodites rosae* (L.) in England, large numbers of the Pteromalid parasites, *Habrocytus bedeguaris* Thomson and *H. periclisti* sp n., were obtained. The latter is described herewith as a new species, and a supplementary description of *H. bedeguaris* is given for comparison.

Habrocytus bedeguaris Thomson.

This is a well-known species commonly reared from galls of *R. rosae*. Specimens examined agree well with Thomson's description (1876–78), and there can be no doubt as to its identity. Dr. O. W. Richards and Dr. C. Ferrière kindly examined specimens and confirmed the identification.

In all 486 specimens were examined, of which 175 were females and 311 males. *H. bedeguaris* appears to be restricted as regards host to *R. rosae*, and probably does not attack *Periclistus brandti* Ratzb., the Cynipid inquiline which commonly invades these galls.

For purposes of comparison with *H. periclisti* and to supplement Thomson's description, the following additional description of *H. bedeguaris* is given.

Female. Length 4·0–4·9 mm., typical specimens about 4·8 mm. Right mandible distinctly quadridentate, left mandible tridentate, the inner tooth truncate. Antennae (fig. 2) 13-segmented; scape just attaining level of front ocellus; pedicel about twice as long as broad at apex; two distinct ring segments of about equal size; funicle 6-segmented, the segments successively decreasing a little in length; first funicle segment almost twice as long as broad, the sixth only as long as broad; club of three fused segments which tapers from its middle to a point, about equal in length to the two preceding funicle segments. Fore-wings (fig. 1) a little more than twice as long as broad; marginal and stigmal veins subequal, the postmarginal approximately one and one-half times as long as marginal; basal cell and speculum bare, occasionally with a very few cilia in basal cell and more rarely in speculum, usually a conspicuous single row of about 10 cilia extending from subcosta and lying between basal cell and speculum.

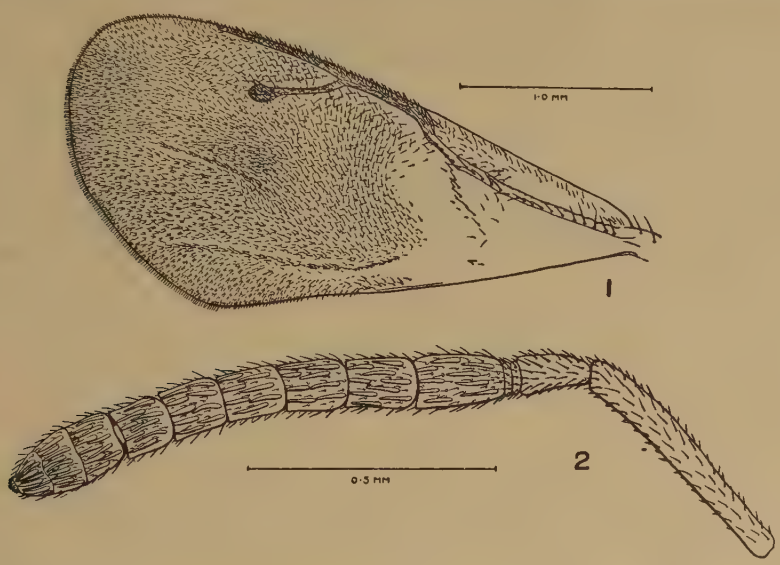
Head and thorax black with blue metallic reflection; abdomen black with conspicuous purple metallic reflection; antennal scape yellow, the flagellum brown; mandibles yellow; coxae concolorous with thorax, trochanters brownish, femora concolorous with thorax, becoming brownish at distal ends, the tibia brownish with distal ends becoming yellow, tarsi yellow with last tarsal segment and claws brownish; wings hyaline, the venation brownish-yellow.

Male. Length 2·7–3·0 mm., typical specimens about 2·9 mm. Antennae almost exactly like the female in shape and proportions of the segments. Wings as in the female. Head, thorax and abdomen black with green metallic reflection, abdomen often with more or less distinct pale spot near base; legs usually somewhat paler than in the female.

Specimens examined :—England : various localities in South Buckinghamshire within 20 miles of Slough, reared from galls of *Rhodites rosae* (L.) as a parasite of this species, 175 ♀ and 311 ♂, May–June 1935 (*E. McC. Callan*).

Geographical distribution :—England, Sweden, Denmark, France, Austria, Yugoslavia, U.S.S.R., Canada (introduced) and U.S.A. (introduced).

The specimen from which this supplementary description was made and additional specimens will be deposited in the British Museum (Natural History), and further specimens will also be deposited in the United States National Museum.



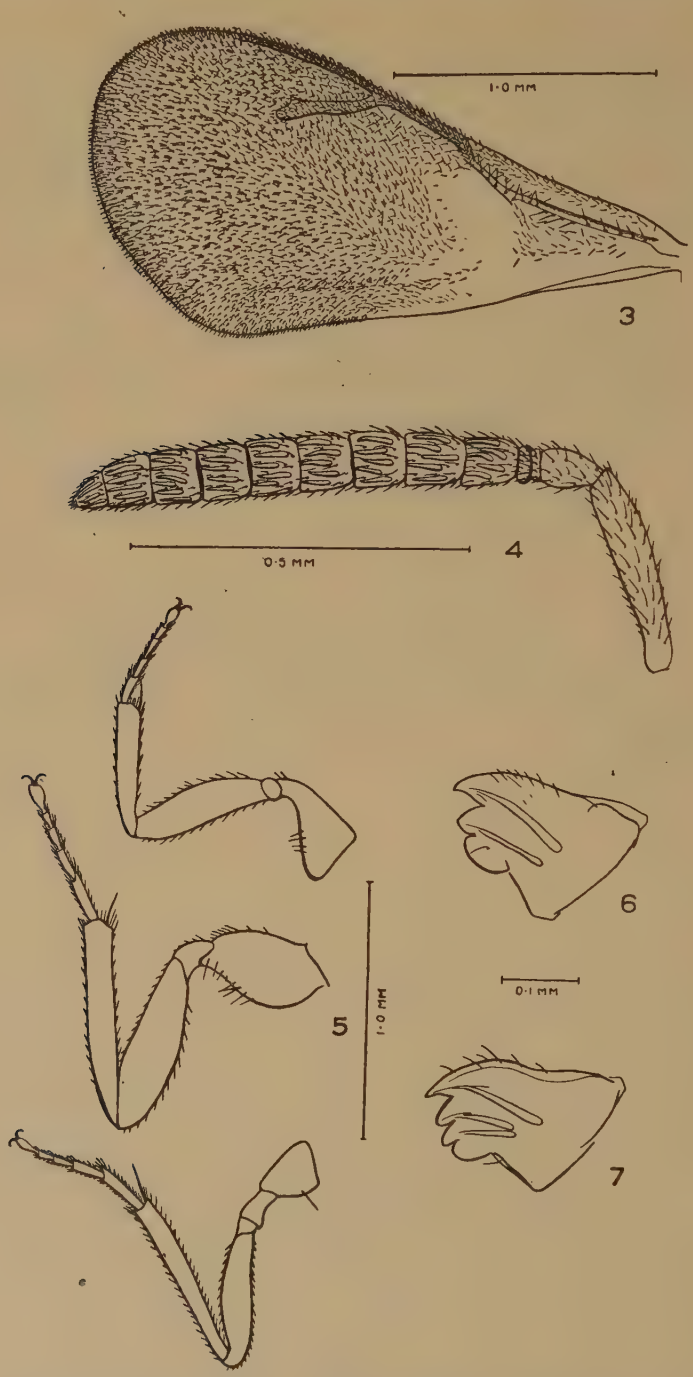
Figs. 1–2.—*Habrocytus bedeguaris* Thomson ♀. 1, Fore-wing; 2, Antenna.

Habrocytus periclisti sp. n.

This species agrees in general facies with Thomson's description (1876–78) of *H. bedeguaris*, but it is markedly smaller in size and differs notably as regards the antennae and fore-wings. There can be no doubt that it is distinct, and it is therefore described as a new species. Specimens were kindly examined by Dr. O. W. Richards, and were also submitted to Dr. C. Ferrière, who was of the opinion that they were to be included in the genus *Habrocytus*, but were an undescribed species.

In all 958 specimens were examined, of which 470 were females and 488 males. *H. periclisti* shows a marked difference from *H. bedeguaris* as regards the host attacked. *H. periclisti* appears to be restricted for host to *Periclistus brandti* Ratzb., which occurs as a common Cynipid inquiline in the galls of *R. rosae*.

Female. Length 3·0–3·6 mm., typical specimens about 3·4 mm. Right mandible (fig. 7) distinctly quadridentate, left mandible (fig. 6) tridentate, the inner tooth truncate. Antennae (fig. 4) 13-segmented; scape not attaining level of front ocellus; pedicel about twice as long as broad at apex; two distinct ring segments, the first a little smaller than the second; funicle 6-segmented, the segments successively decreasing a little in length; first funicle segment only as long as broad, the sixth not as long as broad; club of three



FIGS. 3–7.—*Habrocytus periclisti* sp. n. ♀. 3, Fore-wing; 4, Antenna; 5, Fore, mid and hind legs; 6, Left mandible; 7, Right mandible.

fused segments tapering from its base to a point, a little longer than the two preceding funicle segments. Fore-wings (fig. 3) about twice as long as broad; marginal and stigmal veins subequal, the postmarginal about one and one-third times as long as marginal; basal cell densely ciliated with 45 to 60 cilia, speculum usually quite bare with occasionally one or two cilia.

Head, thorax and abdomen black with blue metallic reflection; antennal scape yellow, flagellum brown; mandibles yellow; coxae concolorous with thorax, trochanters brownish, femora brownish or in part concolorous with thorax, tibia and tarsi yellow with claws pale yellow; wings hyaline, venation brownish-yellow.

Male. Length 2·4–3·0 mm., typical specimens about 2·7 mm. Antennae and wings as in female. Head, thorax and abdomen black with green metallic reflections, abdomen usually with a pale spot near base; legs distinctly paler than in the female.

Specimens examined :—England : various localities in South Buckinghamshire within 20 miles of Slough, reared from galls of *Rhodites rosae* (L.) as a parasite of the Cynipid inquiline, *Periclistus brandti* Ratzb., 470 ♀ and 488 ♂, May–June 1935 (*E. McC. Callan*).

Holotype ♀ Horton, Bucks, England, June 1935 (*E. McC. Callan*) and allotype ♂ Farnham Common, Bucks, England, June 1935 (*E. McC. Callan*); ♂ and ♀ paratypes. The holotype and allotype will be deposited in the British Museum (Natural History) and paratypes will be deposited there and in the United States National Museum.

Habrocytus bedeguaris and *Habrocytus periclisti* sp. n. can be separated by the following key :—

(1) First funicle segment of antenna almost twice as long as broad; basal cell of wing bare . . . . . *Habrocytus bedeguaris* Thomson.
(2) First funicle segment of antenna only as long as broad; basal cell of wing densely ciliated . . . . . *Habrocytus periclisti* sp. n.

Acknowledgements.

This work was carried out at the Imperial College of Science and Technology Biological Field Station, Slough, Bucks, England. I am greatly indebted to Dr. O. W. Richards and Dr. C. Ferrière, who kindly examined specimens for me, and to Miss Patricia Atteck for the care with which she has made the drawings illustrating this paper.

Reference.

Thomson, C. G., 1876–78, *Hymenoptera Scandinaviae* **4–5**. Lund.

A NEW ZEALAND PHASMID (ORTHOPTERA) ESTABLISHED IN THE BRITISH ISLES

By B. P. Uvarov, C.M.G., D.Sc., F.R.E.S.

In 1910, Kirby (*Zoologist* **14** : 197) reported a female of a spiny stick-insect taken in 1908 by Mrs. M. F. Arbuthnot, out-of-doors at Fairlow, Paignton, Devon. The specimen is in the British Museum (Natural History), and was identified by Kirby, with some doubt, as *Macracantha geisovii* Kaup, a species described from New Zealand.

Another female of the same species was recently submitted to me for examination, by Messrs. Rowland Ward, to whom it was sent by Mr. George Penrose, Curator of the County Museum at Truro, Cornwall. The specimen was found, again out-of-doors, by Major A. A. Dorrien-Smith, D.S.O., at Tresco Abbey, Scilly Isles. The specimen belongs to the Truro Museum, but unfortunately it suffered damage during its return journey there.

Taxonomy of the species.

There is no doubt that both females belong to the New Zealand species described by Westwood (1859, *Cat. Orth. Ins. Brit. Mus.* **1** : 48, pl. iii, figs. 2, 2a, 2b) under the name *Acanthoderus prasinus*. Kirby (1904, *Syn. Cat. Orth.* **1** : 340) removed this species, together with three others, from *Acanthoderus* Gray 1835 to a new genus, *Macracantha* Kirby 1904, but this name is pre-occupied in Arachnida by *Macracantha* Simon 1864 (*Hist. nat. Araignées* : 287), and I propose, therefore, to call the genus *Acanthoxyla* **nom. nov.,** with the following references :—

Acanthoxyla gen. n.

Acanthoderus Hutton 1899, *Trans. N. Zeal. Inst.* **31** : 56 (*nec* Gray 1835); *Macracantha* Kirby 1904, *Syn. Cat. Orth.* **1** : 340 (*nec* Simon 1864); *Acanthoderus* Brunner 1907, *Insektenfam. Phasm.* : 183, 238 (*nec* Gray 1835).

The genotype of *Acanthoxyla* is *Acanthoderus prasinus* Westwood 1859, as fixed by Kirby (*loc. cit.*) for his *Macracantha*, and the diagnosis of *Acanthoderus* by Brunner (*loc. cit.*) applies to *Acanthoxyla*.

Therefore, the species in question is to be known as *Acanthoxyla prasina* (Westwood 1859), and the Prickly Stick-insect might be suggested as an appropriate English name. Kirby (1910, *loc. cit.*), when recording the Paignton female as *geisovii* Kaup, apparently used Brunner's key to species in which *prasina* is characterised incorrectly as having the sternum unarmed, in flat contradiction to Westwood's original description and figures. It should be mentioned that *geisovii* was described only from a male, while no male of *prasina* is yet known. Even if they prove to be the two sexes of the same species, the name *prasina* will have priority over *geisovii*.

Two more nominal species of the genus are *suteri* Hutton 1899 and *fasciata* Hutton 1899, both from New Zealand, but further studies are needed to clear up their taxonomy and interrelations. In any case, *A. prasina* (Westwood)

remains the oldest known species and the two British specimens definitely belong to it.

British records.

The female taken at Paignton in 1908 was found on a climbing rose and the specimen reached the Museum in November, presumably soon after its capture. The second female was discovered by Major Dorrien-Smith at Tresco Abbey, Scilly Isles, when pruning loganberries on 11th November 1943, and a "quite immature specimen" was found by him, again on loganberry, in July 1944.

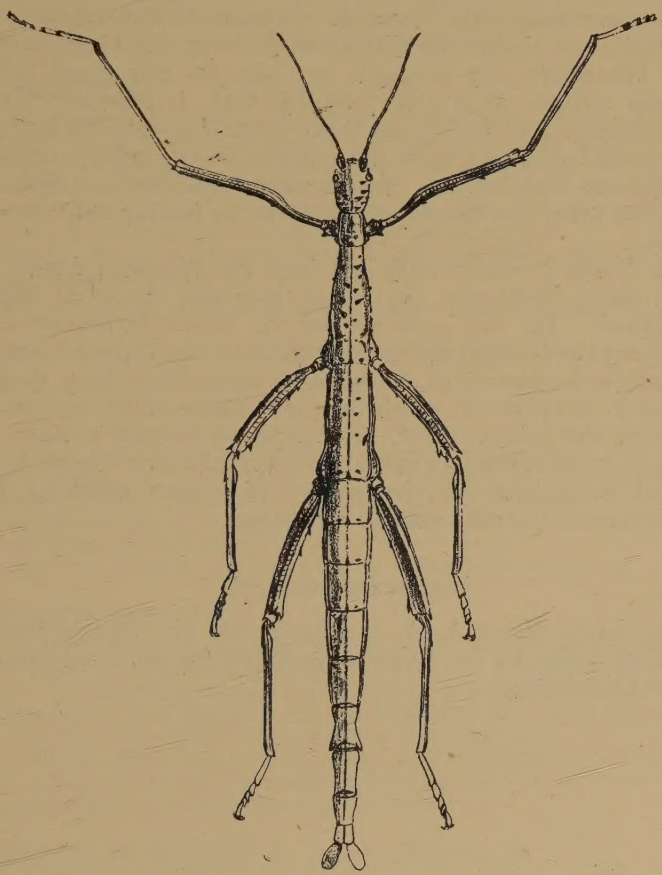


Fig. 1.—*Acanthoxyla prasina* (Westwood 1859), female (after Westwood).

These records suggest that the species is able to live and to breed in this country out-of-doors and that adults may be found in the autumn, though there may be no definite seasonal cycle. The appearance of *A. prasina* in this country may well be the sequel to the importation of a large number of live plants into the Scilly Isles by Major Dorrien-Smith, from New Zealand in 1907 and 1909. Some of the plants imported in 1907 were distributed elsewhere, including Paignton. Thus it appears possible that the Prickly Stick-insect has been established on the South Coast and the Scilly Isles for the last 36 years, unless it has been imported again by someone else at a later date. Even if the latter

alternative is admitted, there has been, according to Major Dorrien-Smith, no importation of live plants during the war, so that the species must have been present at least for the last four years. Therefore, the species can be regarded as acclimatised in this country. This is not surprising, since many New Zealand plants are thriving here, and since the mean temperature of the coldest month (February) at Falmouth, Cornwall, is 39·5° F., exactly the same as that of July (the coldest month) at Dunedin, one of the coldest coastal stations in New Zealand, while at the Scilly Isles the mean February temperature is 45·3° F.

It may be asked why the Prickly Stick-insect, if established in this country, has not been more frequently recorded. It must be remembered, however, that all Phasmids are notoriously difficult to discover, and that many of them are more or less active only at night, and pass the day closely clinging to branches under foliage. It is quite probable that *A. prasina* will be found again on the South Coast and in the Scilly Isles, if naturalists look for it on various shrubs and climbers, more particularly on the prickly ones, such as roses, brambles and loganberries. An inspection of such plants with a lantern on warm nights when the insects are likely to be feeding may be especially recommended.

The adult female is easily recognised from the appended figure. It is of green colour, about 85–90 mm. ($3\frac{1}{2}$ inches) long and almost as thick in the middle as a pencil. The male, not yet known, should be smaller and more slender, but it is probable that the species reproduces itself parthenogenetically.

Should females be discovered, it would be advisable to keep them in captivity, feeding on the plant on which they were found, until eggs are laid and to try to hatch the young. If *A. prasina* proves an easy breeder, it would become a much more interesting insect for natural history classes, for keeping as a pet, and for laboratory investigations of various problems, than the common Stick-insect, *Carausius morosus* Brunner.

ACKNOWLEDGEMENTS.

I am grateful to Major A. A. Dorrien-Smith, Mr. George Penrose and Messrs. Rowland Ward, for the opportunity to put on record the first Phasmid established in this country.

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1944.

WEDNESDAY, October 4
„ November 1
„ December 6

1945.

WEDNESDAY, January 17 (ANNUAL MEETING)
„ February 7

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